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| 09/612,545 | 07/07/2000 | Jea-Seong Kim | 0630-1115P | 9390 |

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Birch Stewart Kolasch & Birch LLP
P O Box 747
Falls Church, VA 22040-0747

| EXAMINER | |
|---|---|
| ZHENG, EVA Y | |
| **ART UNIT** | **PAPER NUMBER** |
| 2634 | |

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Please find below and/or attached an Office communication concerning this application or proceeding.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 09/612,545 | KIM, JEA-SEONG | |
| | Examiner | Art Unit | |
| | Eva Yi Zheng | 2634 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *01 June 2004*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☐ Claim(s) _____ is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-8* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *6/1/04* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

## DETAILED ACTION

### *Response to Arguments*

1. The objection to abstract has been withdrawn because of the amendment.

2. Applicant's arguments filed on June 1, 2004 have been fully considered but they are not persuasive. The Examiner has thoroughly reviewed Applicant's arguments but firmly believes that the cited reference reasonably and properly meet the claimed limitation as rejected.

a) Applicant's argument – Regarding claims 1-5 and 7 as rejected under 35 U.S.C. 102(b) as being anticipated by Bean et al. (4,811,279), applicant argues that "Bean (block 20) does not transmit a clock signal"; "second control unit of Bean (block 30) does not transmit a clock signal"; and "there is not provision for a separate clock signal to be transmitted'.

Examiner's response – Bean's data processing system comprises a first unit (block 20) and a second unit (block 30) as shown in Fig.1. The first unit transmits a self-clocked digital data WCD on line 16 to the second unit (Col 8, L48-49). The second unit transmits a self-clocked digital data RRD on line 14 to the first unit (Col 8, L43-44). Both WCD and RRD are clock signals. Self-clocked signal is equivalent to clock generated signals. The first unit also transmits a real-time controller state (RTCS) to the second unit, wherein it transmits a real-time drive state (RTDS) to the first unit (as shown in Fig.1). Since both RTCS and RTDS are real-time, they must be clocked signals as well. Moreover, applicant has nowhere in the claim explicitly state that a

separate clock signal is transmitted. Applicant is reminded that the Examiner is entitled to give the broadest reasonable interpretation to the language of claims.

b) Applicant's argument – Regarding claim 8 as rejected under 35 U.S.C. 103(a) as being unpatentable over Bean et al. in view of Knoblock et al. (4,186,379), and in further view of Wong (6,650,149), "Bean does not meet the Applicant's claimed combination which included the features of (1) two control units and (2) each of said control units transmitting data to the other with a data transmission start signal".

Examiner's response – Bean's data processing system comprises a first unit (block 20) and a second unit (block 30) as shown in Fig.1. Although unit 1 and unit 2 have a master/slave relationship, unit 1 is controlled by unit 2, while unit 2 is controlled by unit 1. These two units transmit signals in a direct relationship (bus 18, 16, 14, and 12 in Fig. 1). Each unit transmits signal to each other. Applicant is reminded that the Examiner is entitled to give the broadest reasonable interpretation to the language of claims.

### *Claim Rejections - 35 USC § 112*

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Amended Claims 1-7 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding amended claim 1, transmitting signals from the second control unit to the first control unit (line 6-7) is the same as receiving signals from the second unit by the first control unit (line 9-10). "A transmission confirmation signal of the second control unit by the first control unit" (line 10-11) is the same as "a reception confirmation signal of the second control unit by the first control unit (line 4-5)". Therefore, claim language is confusing, unclear, and render redundancy problems.

***Claim Rejections - 35 USC § 102***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1-5 and 7 are rejected under 35 U.S.C. 102(b) as being anticipated by Bean et al. (4,811,279)

a) Regarding claim 1, Bean et al. disclose a method for serial data communication which transmits and receives data in two-way, comprising: referring to Fig. 1

transmitting data and a clock signal (Col 8, L 48-53) from a first control unit (block 20) to a second control unit (block 30), at the same time checking a reception confirmation signal of the second control unit by the first control unit (Col 2, L42-53); and

receiving the data and the clock signal (Col 8, L 43-47) from the second control unit (block 30) by the first control unit (block 20), at the same time checking a

transmission confirmation signal of to the second control unit by the first control unit (Col 2, L42-53).

b) Regarding claim 2, Bean et al. disclose the method according to claim 1, wherein said data transmission process further includes the steps of:

(a) confirming whether data was received, starting the data transmission with a data transmission start signal (Col 6, L 27-34), and receiving the reception confirmation signal from the second control unit (Col 9, L5-13);

(b) recognizing the data reception of the second control unit, and reversing the transmission start signal in order to transmit a next data (Col 8, L 43-47) (Col 9, L24-Col 10, L37);

(c) transmitting a transmission permission signal which permits the next data transmission to the first control unit by the second control unit (Col 12, L14-Col 13, L21); and

(d) feedback-receiving the transmission permission signal (Col 13, L24-Col 14, L 15).

c) Regarding claim 3, Bean et al. disclose the method according to claim 1, wherein said data reception process further includes the steps of:

(a) receiving a first data from the second control unit and feedback-performing a signal for informing the reception (Col 12, L14-Col 13, L21), (Col 13, L24-Col 14, L 15);

(b) receiving a preparation signal for informing a next data transmission from the second control unit (Col 8, L 43-47) (Col 9, L24-Col 10, L37);

(c) transmitting the data transmission permission signal to the second control unit (Col 9, L5-13); and

(d) transmitting the next data on the second control unit after feedbackreceiving the data transmission permission signal (Col 13, L24-Col 14, L 15).

d) Regarding claim 4, Bean et al. disclose the method according to claim 2, wherein the number of the to transmitted data is adjusted voluntarily in accordance with communication circumstances, and is determined in accordance with data processing unit of the second control unit (Col 5, L 1-16).

e) Regarding claim 5, Bean et al. disclose the method according to claim 2, wherein a transmission error occurs when the reception confirmation signal is not received (Col 15, L60 – Col 16, L16).

f) Regarding claim 7, Bean et al. disclose the method according to claim 2, wherein the transmitting process of the data reception confirmation signal and the data transmission permission signal is performed more than two times (Col 2, L42-65).

***Claim Rejections - 35 USC § 103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

8. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bean et al. in view of Knoblock et al. (4,186,379), and in further view of Wong (6,650,149).

Bean et al. disclose an apparatus for serial data communication, comprising:

two control units (block 20 and 30 Fig. 1) for transmitting data with a data transmission start signal at a data transmission mode (Col 6, L 27-34), performing repeatedly the data transmission process which feedback-receives a data transmission permission signal and a reception permission signal from one control unit to the other control unit and transmits the data, and transmitting repeatedly the data reception confirmation signal and the data transmission permission signal from one control unit to the other control unit (Col 2, L42-65);

four serial buses for performing serial data transmission between the two control units (18,16,14,and 12 in Fig. 1);

Bean et al. disclose all the subject matter claimed, except the special teaching of (A) two pull-up operation units, and (B) a control voltage matching unit.

With respect to item (A), Knoblock et al. disclose pull-up operation units for maintaining control voltage level of the to serial buses at a certain level (Fig. 3; Col 2, L 65- Col 3, L16).

Data driver most commonly used to drive data and valid data indicator lines typically contain either passive or active "pullup" circuitry. (Col 1, L18-20) Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to employ pullup resistors apparatus taught by Knoblock et al. in the data transmission system taught by Bean et al. In doing so, data are transmitting under a known and controlled voltage. Therefore, improving data transmitting process and quality.

With respect to item (B), Wong discloses a control voltage matching unit for continuing voltage equilibrium condition by muting excessive voltage at grounding side when the control voltage level do not coincide with the serial bus due to an operation voltage difference of the pullup operation units (Fig. 1-4; Col 1, L66- Col 2, L11).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to employ a control voltage matching unit (fail-safe circuits) taught by Wong in the pullup resistors apparatus taught by Knoblock et al. In doing so, signals that are transmitted over cables, buses, or drivers have better quality and transmission rate.

***Conclusion***

9. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eva Yi Zheng whose telephone number is 703-305-8699. The examiner can normally be reached on 7:30-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Chin can be reached on 703-305-4714. The fax phone number for the organization where this application or proceeding is assigned is 703-879-9306.

**Any response to this action should be mailed to:**

Commissioner of Patents and Trademarks

Washington, D.C. 20231

**or faxed to:**

**(703) 872-9314 (for Technology Center 2600 only)**

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.

Eva Yi Zheng
Examiner
Art Unit 2634

August 2, 2004

SHUWANG LIU
PRIMARY EXAMINER